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ABSTRACT

The Reading Is Fundamental (RIF) program is designed to give disadvantaged children incentive to read by letting them choose books from a wide variety of paperbacks and keep them as their own. This document reports on the evaluation procedures and results for the Dallas RIF Project in 1973-1974. Following a description of the project and its objectives, the document discusses the methodology employed in the evaluation study, giving specific consideration to sampling techniques, instrumentation, procedures used in data collection and anlaysis, and assumptions and limitations of the study. Results are then reported with regard to the matching of experimental and comparison schools; program implementation; teachers', students', and parents' opinions of the project; and the effect of the program on students' attitudes and reading skills. Numerous statistical tables and a summary of responses to a parent questionnaire are included. Appendixes provide a teacher questionnaire on curriculum materials used and ANCVA tables for the analysis of data regarding reading skills, attitude toward school, self-concept, and attitude toward reading, and for the analysis of teachers' ratings of students' attitudes. (GW)

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REPORT FOR THE EVALUATION OF THE READING IS FUNDAMENTAL PROJECT 1973-74

Research Report No. 74-289

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Executive Summary

Objectives of the Project: The objectives for students who participated in the Reading Is Fundamental (RIF) Project were as follows: (a) to motivate students to want to read, (b) to assist students in developing positive self-images, (c) to make books and reading a natural part of every child's daily experience, (d) to allow ownership of reading material by disadvantaged students, and (e) to improve students' reading skills. Parents of RIF students were expected to show a greater interest and involvement in the education of their children and to focus on improving the reading motivation and skills of their children.

Purpose of the Evaluation: The major purposes of the evaluation study were (a) to solicit opinions of students, teachers, and parents regarding the operation of the RIF programs funded by the East Dallas Exchange Club; (b) to determine if exposure of students to the RIF programs resulted in improved attitudes toward reading, attitudes toward school, and self-concepts; and (c) to determine if exposure of students to the RIF programs increased performance on critical reading and reading comprehension tasks.

Sample: Evaluation of the RIF project in the Dallas Independent School District was limited to those programs sponsored by the Exchange Club of East Dallas, which provided $20,000 to finance a 3-year implementation of RIF programs in three elementary schools and one junior high school. James Bonham, William Lipscomb, and Mount Aurburn were the elementary schools which were involved, as well as the special reading classes at J. L. Long Junior High School. Sam Houston, Martin Weiss, and Winnetka Elementary Schools and Fred F. Florence Junior High School were selected a posteriori as comparison schools.

1. To determine the extent to which the RIF programs were implemented as planned, classroom visits and interviews were conducted with 42 of the staff involved in the project. Those interviewed were selected at random from the total RIF staff.

2. The sample used to determine students' opinions regarding the project consisted of 88 students. A stratified random sampling technique, with school and grade level as strata, was used to select the students.

3. The number of sample elements in the parent survey was 150. Selection was random, with stratification by school and grade level. Of the questionnaires which were distributed, 22 were discounted because the students had transferred. Sixty-five of the remaining 128, or 51%, were completed and returned in either the initial survey or the follow-up to the initial survey.

4. Each subject in the student sample for assessing reading skills, attitude toward school, self-concept, and attitude toward reading met the following criteria: (a) the pupil was an element in an original sample which was randomly selected, with stratification by grade level and classroom, from the student populations for both experimental and comparison schools; (b) both pre- and posttest data for the criterion variable were available for the pupil; and (c) certain demographic information was available for the pupil. Of the 1513 students in the original sample, 869 (57%) met the above criteria and were included in the final sample to assess reading skills. Attitude toward school, self-concept, and reading sentiment, which were assessed using a common instrument, were based on a final sample of 839 students (55% of the original sample). Teachers' ratings of students' attitudes toward reading were available for 1051 students (69% of the original sample).

Evaluation Design: A nonrandomized control-group pretest-posttest design was used to assess the effectiveness of the RIF project for the following criteria: reading skills (RS), attitude toward school (ATS), self-concept (SC), attitude toward reading (ATR), and teachers' ratings of students' attitudes as inferred by overt behavior (TRB). The design may be represented schematically as follows:

	Pretest	Treatment	Posttest
Experimental	T_1	X	T_2
Control	T_1		T_2

In the above diagram, T_1 represents the collection of pretest data, X represents the instructional intervention with RIF, and T_2 represents the collection of posttest data. Three instruments, an experimental version of the Survey of Reading Skills, the School Perceptions Scale, and the Scale of Reading Attitude Based on Behavior, were used in gathering data.

The major evaluation questions considered in the study were as follows:

1. To what extent were the RIF programs implemented as planned?

2. What were the opinions of teachers, students, and parents concerning the RIF project?

3. How did students exposed to the RIF project perform on a reading skills test relative to selected comparison students not exposed to the project?

4. What differences in attitude toward school, self-concept and reading sentiment, as measured by the School Perceptions Scale, (Form B), existed between students exposed to the RIF project and selected comparison students?

5. Was there a difference in attitude toward reading, as measured in behavioral terms using the Scale of Reading Attitude Based on Behavior, between students exposed to the RIF project and selected comparison students?

Evaluation Results:

A. Process Evaluation

1. Overall, the RIF project appeared to be well implemented. In all schools the RIF books were available to all students, with a small exception, and most students were able to receive a book for their own.

2. Two modes of implementation were employed: maintenance of RIF libraries in separate classrooms and support of the RIF library in the school library.

3. In cases where individual teachers were responsible for implementation, more comments were received regarding deficiences in conducting the program. Time required in record keeping and lack of facilities for displaying books were the problems most frequently cited.

4. When the RIF program was placed under coordination of the librarian, the aforementioned problems were somewhat overcome, but were in turn replaced by other problems. For example, with the program removed from the classroom some teachers appeared more reluctant to participate. Also, under the rule that only students who finished their class work could go to the library to participate in RIF, it was possible that students of lower ability could have received less exposure to the RIF books.

B. Opinionnaire Data

5. In general students responded favorably to questions concerning the RIF books. Ninety percent of the students interviewed, for example, agreed that the books were interesting, and 89% wanted to have the project available to them during the next school year. All students who had received gift books stated they enjoyed being able to choose a book for their own. One goal which was not achieved by the majority of students interviewed was the purchase of books for personal collections.

6. Parents opinions regarding RIF were very favorable, for large percentages of respondents (55%-77%) agreed that their child's interest in reading, school, and libraries had improved. Also, parents reported that their child not only read more at home this year than last, but other members of the family also read the RIF books.

7. Teachers overwhelmingly agreed that RIF accomplished its objectives in motivating students to want to read and improving students' self-images. Opinions about the improvement of reading skills were more divided, but the majority of teachers felt that this objective was also met in the project. One area in which RIF did not succeed was that of direct parental involvement in the classroom. No teacher reported having any parent help in the operation of RIF in the classroom, and many felt this was an unrealistic goal.

C. Product Evaluation

8. Tests of hypotheses for differences between instructional treatments (RIF and comparison) adjusted by pretest level indicated little consistent effect of the RIF project in producing positive changes for any of the criterion variables. The following table summarizes the findings:

Summary of Tests of Hypotheses for Differences Between RIF and Comparison Students

Grade Level	Criterion				
	RS[a]	ATS[b]	SC[c]	ATR[d]	SRA[e]
0	n.s.	n.s.	n.s.	n.s.	nonRIF>RIF**
1	n.s.	RIF>nonRIF*	n.s.	n.s.	n.s.
2	RIF>nonRIF**	n.s.	n.s.	n.s.	n.s.
3	n.s.	n.s.	RIF>nonRIF*	n.s.	n.s.
4	n.s.	n.s.	n.s.	n.s.	RIF>nonRIF*
5	RIF>nonRIF*	n.s.	n.s.	nonRIF>RIF**	nonRIF>RIF*
6	n.s.	n.s.	n.s.	n.s.	n.s.
7	nonRIF>RIF*	n.s.	n.s.	n.s.	n.s.
8	n.s.	n.s.	RIF>nonRIF*	RIF>nonRIF*	n.s.
9	nonRIF>RIF*	RIF>nonRIF*	n.s.	n.s.	n.s.

Note - Tests of hypotheses concerning differences between instructional treatments (in the presence of schools nested within treatments) after adjustment for the linear trend in the relationship between the posttest and pretest

[a] RS = reading skills

[b] ATS = attitude toward school

[c] SC = self-concept

[d] ATR = attitude toward reading

[e] SRA = teachers' ratings of students' attitudes toward reading

n.s. = not significant

* $p<.05$

** $p<.01$

Table of Contents

	Page
Executive Summary	i
Introduction	1
Description of the Dallas RIF Project	1
Objectives of the RIF Project	2
Method	3
Sample	4
Context Evaluation	4
Process Evaluation	4
Product Evaluation	5
Instrumentation	10
Process Evaluation	10
Product Evaluation	10
Procedure	13
Context Evaluation	13
Process Evaluation	13
Product Evaluation	13
Assumptions and Limitations	15
Results	17
Context Evaluation	17
Process Evaluation	25
Product Evaluation	27
Discussion	40
References	42
Appendices	43

List of Tables

Page

Table 1

Sample Size for Assessing Reading Performance..... 7

Table 2

Sample Size for Assessing Attitude Toward School, Self-Concept, and Reading Sentiment..... 8

Table 3

Sample Size for Assessing Attitude Toward Reading as Perceived by Teachers..... 9

Table 4

Attributes of Reading-Is-Fundamental and Comparison Schools.... 18

Table 5

Attributes of Reading-Is-Fundamental and Comparison Student Populations..... 19

Table 6

Attributes of Reading-Is-Fundamental and Comparison Teachers... 21

Table 7

Special Programs in Reading-Is-Fundamental and Comparsion Schools..... 24

Table 8

Summary Statistics for Reading Skills Data..... 34

Table 9

Summary Statistics for Attitude-Toward-School Data..... 35

Table 10

Summary Statistics for Self-Concept Data..... 36

Table 11

Summary Statistics for Attitude-Toward-Reading Data..... 37

Table 12

Summary Statistics for Teachers Ratings of Students' Attitudes Toward Reading..... 38

Table 13

Summary of Tests of Hypothesis for Differences Between RIF and Comparison Students..... 39

Introduction

Reading is Fundamental (RIF) was a national effort designed to give disadvantaged children incentive to read by letting them choose from a wide variety of inexpensive paperback books the ones that interest them, and by letting them keep the books as their own. From its beginning as a modest experiment funded by the Ford Foundation, RIF expanded to the point of having distributed more than two million books to about half a million children. The effort was coordinated by the national RIF Office in Washington, D.C., which set goals and guidelines for local projects and provided development materials and technical assistance in organizing projects. The strength of the RIF effort, however, lay in the involvement of the local community. Through the cooperation of a sponsoring agency, district-level administration, individual school faculties, and the local community, RIF was expected to expand students' interests and skills in reading.

Description of the Dallas RIF Project

The RIF project, the topic of this evaluation study, was sponsored by the East Dallas Exchange Club which provided $20,000 to finance a three-year implementation of RIF in three elementary schools and one junior high school. James Bonham, William Lipscomb, and Mount Auburn were the three elementary schools involved, as well as the special reading classes at J. L. Long Junior High School.

The RIF programs in the elementary schools were organized by the principal and librarian in conjunction with the entire faculty. The principal, reading teachers, and librarian assumed the responsibility for organization in secondary schools, with the program involving students needing special reading assistance. In both settings, elementary and secondary, an advisory committee was recommended to plan the details for operation and to select books.

Books were ordered at least twice a year, and were selected from guides which include a large number of "high-interest low-reading level" titles. Typical examples were "making and doing" books, "fun and laughter" books, sports books, and mysteries. The objective was to stimulate the interest of the reluctant or poor reader by introducting him to successful reading experiences and, hence, increase his interest in reading.

Operation of the RIF project varied by school according to plans of the Advisory Committees. Pupils usually checked out books from the paperback library, and when a book was returned the pupil informally reported the content to the librarian or teacher. Criteria were established for earning books, which were awarded on specially designated "gift book" days. Following were examples of participation alternatives:

1. Listen to _____ stories read by the teacher, librarian, aide, volunteer, or other student.
2. Read a book and tell the librarian, aide, teacher, or volunteer about the story.
3. Write a brief report about the book.
4. Follow directions from one of the "how to do it" books to make an item.
5. Tell a story about the book to peers in the classroom.

Objectives of the RIF Project

The goal of the RIF project in the Dallas Independent School District (DISD) was to provide an opportunity for the cooperation of a sponsoring organization, DISD administration, individual school factulty, and interested members of the community in improving students' interests and skills in

reading. The objectives for students who participated in the RIF project were as follows:

1. To motivate students to want to read.
2. To assist the child in developing a positive self-image.
3. To make books and reading a natural part of every child's daily experience.
4. To allow ownership of reading material by the disadvantaged student.
5. To improve students' reading skills.

Parents of RIF students were expected to demonstrate the following:

1. Greater interest and involvement in education, adult educational opportunities, and community-school activities.
2. Greater focus on improving the reading skills of their children; e.g., purchase of books in addition to paperback books from RIF, and stimulating children's interest in visiting the public library.
3. Greater personal interest in reading and use of the public library.
4. Wider use of community resources; e.g., taking children or groups of children on field trips to the zoo, airport, museums, etc.

Method

The methodology employed in the evaluation study was based upon the procedures delineated in the design for the study (Lym, 1974). In the following discussion specific consideration is given to sampling techniques, instrumentation, procedures used in data collection and analysis, and the assumptions and limitations made in conducting the study.

Sample

Context Evaluation

The relevant environment of the RIF project was defined in terms of characteristics of the students, teachers, and communities represented by the four RIF schools, James Bonham, Lipscomb, Mount Auburn, and J. L. Long as well as their respective comparison schools, Sam Houston, Martin Weiss, Winnetka, and Fred Florence. An exception occurred in that no comparison of past reading achievement was made for RIF students at J. L. Long and comparison students at Fred Florence as these included only the special reading classes.

Process Evaluation

Teachers in self-contained classrooms, language arts teachers, and librarians who were designated to implement RIF were considered as a representative sample of DISD teachers possessing similar characteristics who potentially could have implemented the RIF project. The determination of the extent to which the project was implemented was accomplished through interviews with a sample of the staff involved in RIF. Sample sizes for each school and grade level are indicated below:

Grade Level	Bonham	Lipscomb	Mt. Auburn	Long	Total
K	1	1	2		4
K-1	2	2			4
1	1	1			2
2	2	1	2		5
2-3		1			1
3	2	1	2		5
4	2	2	1		5
5	2	2	2		6
6	1	2	2		5
7			1		1
8				1	1
9					
Librarian		1	1		2
	13	14	13	1	42

Product Evaluation

Teacher attitude. Data related to teachers' opinions regarding the adequacy of the RIF project were collected during the interviews with teachers for process evaluation. Thus, the same sample of teachers for whom process data were collected also served as the sample for teacher attitude.

Student attitude. A stratified random sampling technique was used to select 88 students who participated in the RIF project to serve as sample elements. Grade level and school were the sampling units on which stratification was based. Sample sizes for each grade level and school are listed below:

Grade Level	Bonham	Lipscomb	Mt. Auburn	Long	Total
K	4	4	3		11
1	4	4			8
2	3	4	4		11
3	4	3	4		11
4	4	4	3		11
5	3	4	4		11
6	3	4	4		11
7			4		4
8				5	5
9				5	5
	25	27	26	10	88

Parent attitude. Parents' opinions concerning the RIF project were obtained using a specially designed questionnaire. The sample of parents who were asked to respond to the questionnaire was selected randomly, with stratification based on school and grade level. A total of 150 parents were involved in the sample. Following is a breakdown by grade level of sample sizes for each RIF program:

Grade Level	Bonham	Lipscomb	Mt. Auburn	Long	Total
K	6	7	5		18
1	6	7			13
2	6	6	6		18
3	6	6	6		18
4	6	6	7		19
5	6	7	7		20
6	6	7	6		19
7			7		7
8				10	10
9				8	8
Total	42	46	44	18	150

Of the 150 questionnaires which were distributed, 22 were discounted because the students had transferred from the school. Sixty-five of the remaining 128, or 51%, were returned.

Student Outcomes. Each subject in the student sample for assessing reading skill, attitude toward school, self-concept, [redacted] attitude toward reading met the following criteria:

1. The pupil was an element in a sample which was randomly selected, with stratification by grade level and classroom, from the student populations for both experimental and comparison schools.
2. Both pre- and posttest data for the criterion variable were available for the pupil.
3. Certain demographic information (i.e., sex, classification) was available for the pupil.

Tables 1, 2, and 3 show the number of RIF and comparison students who met the criteria to be included in the sample for analysis of data.

Table 1

Sample Size for Assessing Reading Performance

School	Treatment[a]		K	1	2	3	4	5	6	7	8	9
James Bonham	E_1	Sample for Analysis	16	18	22	24	26	21	23			
		Original Sample	30	32	32	32	32	32	32			
		Proportion	.53	.56	.69	.75	.81	.66	.72			
Sam Houston	C_1	Sample for Analysis	13	08	13	17	22	20	22			
		Original Sample	32	32	32	32	32	32	32			
		Proportion	.41	.25	.41	.53	.69	.63	.69			
Wm. Lipscomb	E_2	Sample for Analysis	15	11	19	22	16	22	22			
		Original Sample	32	32	32	31	32	32	32			
		Proportion	.47	.34	.59	.71	.50	.69	.69			
Martin Weiss	C_2	Sample for Analysis	16	13	21	---	18	24	18			
		Original Sample	32	32	32	30	32	31	32			
		Proportion	.50	.41	.66	.00	.56	.77	.56			
Mt. Auburn	E_3	Sample for Analysis	17	14	22	18	17	15	18	23		
		Original Sample	32	30	32	32	30	32	32	30		
		Proportion	.53	.47	.69	.56	.57	.47	.56	.77		
Winnetka	C_3	Sample for Analysis	16	19	20	22	20	22	22	21		
		Original Sample	32	32	32	32	32	32	32	32		
		Proportion	.50	.59	.63	.69	.63	.69	.69	.66		
J. L. Long	E_4	Sample for Analysis									21	11
		Original Sample									31	32
		Proportion									.68	.34
Fred Florence	C_4	Sample of Analysis									22	09
		Original Sample									32	22
		Proportion									.69	.41

[a] E_i = ith experimental (RIF) school; C_i=comparison schools for ith experimental schools.

Table 2

Sample Size for Assessing Attitude Toward School, Self-Concept, and Reading Sentiment

School	Treatment[a]		Grade Level K	1	2	3	4	5	6	7	8	9
James Bonham	E_1	Sample for Analysis	16	18	19	18	19	21	21			
		Original Sample	30	32	32	32	32	32	32			
		Proportion	.53	.56	.59	.56	.59	.66	.66			
Sam Houston	C_1	Sample for Analysis	16	15	19	17	21	16	15			
		Original Sample	32	32	32	32	32	32	32			
		Proportion	.50	.47	.59	.53	.66	.50	.47			
Wm. Lipscomb	E_2	Sample for Analysis	13	13	17	16	17	19	20			
		Original Sample	32	32	32	31	32	32	32			
		Proportion	.41	.41	.53	.52	.53	.59	.63			
Martin Weiss	C_2	Sample for Analysis	00	16	20	19	22	22	13			
		Original Sample	32	32	32	30	32	31	32			
		Proportion	.00	.50	.63	.64	.69	.71	.41			
Mt. Auburn	E_3	Sample for Analysis	11	11	24	21	16	18	21	18		
		Original Sample	32	30	32	32	30	32	32	30		
		Proportion	.34	.37	.75	.66	.53	.56	.66	.60		
Winnetka	C_3	Sample for Analysis	18	22	19	20	16	22	24	20		
		Original Sample	32	32	32	32	32	32	32	32		
		Proportion	.56	.67	.59	.63	.50	.69	.75	.63		
J. L. Long	E_4	Sample for Analysis									09	11
		Original Sample									31	32
		Proportion									.61	.34
Fred Florence	C_4	Sample for Analysis									21	08
		Original Sample									32	22
		Proportion									.66	.36

[a] E_i = ith experimental (RIF) school; C_i = comparison school(s) for ith experimental school.

Table 3

Sample Size for Assessing Attitude Toward Reading as Perceived by Teachers

School	Treatment[a]		Grade Level K	1	2	3	4	5	6	7	8	9
James Bonham	E_1	Sample for Analysis	24	19	24	20	23	23	22			
		Original Sample	30	32	32	32	32	32	32			
		Proportion	.80	.59	.75	.63	.72	.72	.69			
Sam Houston	C_1	Sample for Analysis	16	20	24	22	23	19	28			
		Original Sample	32	32	32	32	32	32	32			
		Proportion	.50	.63	.75	.69	.72	.59	.88			
Wm. Lipscomb	E_2	Sample for Analysis	17	15	19	23	19	23	27			
		Original Sample	32	32	32	31	32	32	32			
		Proportion	.53	.47	.59	.74	.59	.72	.84			
Martin Weiss	C_2	Sample for Analysis	24	19	25	23	26	25	21			
		Original Sample	32	32	32	30	32	31	32			
		Proportion	.75	.59	.78	.77	.81	.81	.66			
Mt. Auburn	E_3	Sample for Analysis	11	18	27	25	22	19	28	28		
		Original Sample	32	30	32	32	30	32	32	30		
		Proportion	.34	.60	.84	.78	.73	.59	.88	.93		
Winnetka	C_3	Sample for Analysis	17	22	23	21	24	23	26	26		
		Original Sample	32	32	32	32	32	32	32	32		
		Proportion	.53	.67	.72	.66	.75	.72	.81	.81		
J. L. Long	E_4	Sample for Analysis									26	18
		Original Sample									31	32
		Proportion									.84	.56
Fred Florence	C_4	Sample for Analysis									25	11
		Original Sample									32	22
		Proportion									.78	.50

[a] E_i = ith experimental (RIF) school; C_i = comparison school(s) for ith experimental school.

Instrumentation

Process Evaluation

The Teacher Interview Schedule (Lym, 1974, Appendix A) was used to conduct structured interviews with RIF teachers. The instrument was especially designed by the investigator for use in the evaluation study. Nine general points were contained in the instrument: (a) operation of RIF in the classroom; (b) number of award days and students receiving books; (c) student participation alternatives; (d) problems associated with ordering, (e) strengths and weakenesses of the RIF project; (f) operation of the RIF advisory committee; (g) parental involvement in the school; (h) major objective of the RIF project; and (i) recording of other general comments.

Product Evaluation

Teacher attitude. Item 18 of the Teacher Interview Schedule asked for the teachers' subjective opinions regarding the effectiveness of the RIF project.

Student attitude. Students' opinions concerning the RIF project were obtained in interviews structured by the Student Interview Schedule, Forms E (English) and S (Spanish) (Lym, 1974, Appendix B). The interviews consisted of the following points: (a) number of RIF books chosen as awards, (b) number of books read before receiving award books, (c) enjoyment in choosing a book, (d) difficulty and interest levels of the books, (e) contribution of RIF books in reading other school books, (f) purchase of books like RIF books, and (g) desire for RIF project next year.

Parent attitude. The Parent Questionnaire, Forms E (English) and S (Spanish) (Lym, 1974, Appendix C), was especially designed by the investigator to elicit parents' opinions regarding the effectiveness of RIF. This

questionnaire contained items relating to (a) the number of award books received by the student; (b) the family's interest in the RIF books; (c) the students' interest in reading, school, and libraries as a result of RIF; (d) the amount of extra school reading by the student; and (e) the number of books bought for the student.

Reading skills. The Boehm Test of Basic Concepts (BTBC), the Metropolitan Readiness Tests (MRT), and the reading tests of the California Achievement Tests (CAT), the Comprehensive Tests of Basic Skills (CTBS), and the Iowa Tests of Educational Development (ITED) provided pretest reading achievement data. Posttests were experimental versions of the Survey of Reading Skills (Exp. SRS) as outlined in the design for the evaluation study (Lym, 1974). Following are the tests as they were used at the various grade levels in assessing reading performance of RIF and comparison students:

Grade Level(s)	Pretest	Posttest
K	BTBC/A	Exp. SRS/K-1
1	MRT/A	Exp. SRS/K-1
2	CAT/1A	Exp. SRS/2-3
3	CTBS/1Q	Exp. SRS/2-3
4-6	CTBS/2Q	Exp. SRS/4-9
7-8	CTBS/3Q	Exp. SRS/4-9
9	ITED/X-5	Exp. SRS/4-9

Attitude toward school, self-concept, and reading sentiment. Attitude toward school, self-concept, and reading sentiment were operationally defined in terms of derived scores on the subscales of the School Perceptions Scale (SPS), Form B, (Lym, 1974, Appendix D). The SPS was a self-report instrument comprised of graphic, alternate-choice items. In administering the scales the student was presented with an answer sheet consisting of faces representing a happy-sad continuum, two faces for the Level I scale

(grades K and 1), three faces for the Level II scale (grades 2 and 3), five faces for the Level III scale (grades 4 through 6), and five faces for the Level IV scale (grades 7-9). The examiner then asked the student to indicate his feelings about a particular situation by marking an "X" through the appropriate face. Following are two items taken from the SPS: (a) "How do you feel when it is time to come to school in the morning?" and (b) "How do you feel when you read aloud to the teacher and other children?"

Reliabilities as measured by coefficient α for the SPS were as follows:

		Coefficient α		
Level	Grades	School	Self-Concept	Reading
I	K,1	.84	.84	.90
II	2,3	.67	.61	.73
III & IV	4,5,6,7,8,9	.79	.74	.82

Attitude toward reading as perceived by teachers. The Scale of Reading Attitude Based on Behavior (SRABB) was used to allow teachers to rate students' attitudes toward reading. It was developed by Rowell (1972) and consisted of 16 items related to the student's interest in (a) reading instruction, (b) being read to, (c) reading available materials, (d) going to the library, (e) discussing what he has read and hearing about what others have read, and (f) reading and discussing assignments and additional materials in the content areas. The SRABB appears in Appendix E of the evaluation design (Lym, 1974). Reliability of the SRABB (Coefficient α) in the collection of data for the present study was .97.

Procedure

Context Evaluation

Tabular summaries were made to reflect the relevant characteristics of experimental and comparison schools. Data were obtained from the Dallas Independent School District Management Profiles, 1973-74 (Mallett, 1974).

Process Evaluation

An assistant evaluator from the Department of Research and Evaluation was trained to conduct structured interviews with the sample of RIF staff. Interviews were carried out according to the following time schedule:

School	Time Period (1974)
James Bonham	January 21 - 25
William Lipscomb	January 28 - February 1
Mount Auburn	January 28 - February 1
J. L. Long	February 4 - 8

Following the completion of teacher interviews, an interim report was written and disseminated to project personnel (Averitt, 1974a).

Product Evaluation

Teacher attitude. Teachers' opinions regarding the adequacy of RIF were solicited in the structured interviews for process evaluation and were reported to project management in an interim report (Averitt, 1974a).

Student attitude. Structured interviews with a random sample of students participating in RIF were conducted by the assistant evaluator during the same time interval during which process data were collected. Following completion of these interviews, an interim report was prepared and distributed to project personnel (Averitt, 1974b).

Parent attitude. Questionnaires and self-addressed stamped envelopes were transferred by students to their parents. The initial survey was made during the week of April 22, 1974, with a two-week period allowed for return.

A follow-up survey of non-respondents was then conducted, with the end of the school year as the final deadline for return of all questionnaires. The data were analyzed by computing response distributions for each item of the questionnaire.

Reading skills. A nonrandomized control-group pretest-posttest design (Isaac & Michael),

	Pretest	Treatment	Posttest
Experimental	T_1	X	T_2
Control	T_1		T_2

was used to assess reading skills. The BTBC, MRT, reading tests of the CAT, CTBS, and ITED, and the experimental version of the SRS were administered by teachers according to the following schedule:

T_1 = Pretest T_2 = Posttest

Grade Levels	Test	Date Administered	Test	Date Administered
K	BTBC/A	Sept. 10-14	Exp. SRS/K-1	May 1-3
1	MRT/A	Sept. 10-14	Exp. SRS/K-1	May 1-3
2	CAT/1A	Sept. 17-28	Exp. SRS/2-3	May 1-3
3	CTBS/1Q	Sept. 17-28	Exp. SRS/2-3	May 1-3
4-6	CTBS/2Q	Sept. 17-28	Exp. SRS/4-9	May 1-3
7-8	CTBS/3Q	Sept. 17-28	Exp. SRS/4-9	May 1-3
9	ITED/X-5	Sept. 17-28	Exp. SRS/4-9	May 1-3

Reading scores were analyzed using a twofold nested classification linear model with curriculum (RIF and comparison), schools within curriculum, and sex classification as factors. Pretest score was entered as a concomitant in the model to allow tests of hypotheses concerning differences between treatments (in the presence of schools nested within treatments) after adjustment was made for the linear trend in the relationship between the posttest and pretest. The method of fitting constants, which was a direct application of the least-squares criterion to the general linear model

(Searle, 1971), was applied. A separate analysis was made for each of the grade levels K through 9, with the schools within curriculum factor not appearing in the analysis of data for grades 7, 8, and 9 since only one experimental and one comparison school were present at those grade levels.

Attitude toward school, self-concept, and reading sentiment. The SPS pretest was administered to the student sample November 27-29, 1973, and the posttest was given May 8-10, 1974. The design was identical to that for assessing reading achievement, and the statistical models applied were the same except for the pretest concomitant and the criterion variable. Pre- and posttest scores from the SPS were substituted for those variables.

Attitude toward reading as perceived by teachers. Teachers' perceptions of students' attitudes toward reading were recorded during the time periods November 27-December 7, 1973, and May 8-17, 1974. The evaluation design and techniques applied in the analysis of data were the same as those used for the aforementioned criterion variables (i.e., reading achievement, attitude toward school, self-concept, and reading sentiment).

Assumptions and Limitations

Assumptions

1. The assumption was made that deletion of those sample elements for whom no data were available did not introduce any bias into the estimation process (i.e., the loss of data was considered to be randomly defined).
2. The criterion variables were assumed to be specifically related to the objectives of the project.

3. In the analysis of data, the assumptions were made that the residual error term in the general linear model followed the usual distributional properties of normality and that the within-class regression estimators were homogeneous.

Limitations

1. The confounding resulting from the presence of different experimental projects among the experimental and comparison schools was a critical limitation to the internal validity of the study.
2. Effects of the project were limted to the constructs specified in the questions of the evaluation design (Lym, 1974).
3. Since the schools participating in the study were purposely selected (i.e., represented a fixed factor in the analysis model), generalizability of findings was limited to those schools. Results of the study can be assumed to apply to other schools only insofar as they are identical to the schools actually involved in the study.
4. Use of a quasi-experimental design, wherein regression artifacts may present a serious problem, was a definite limitation in the investigation.

Results

Context Evaluation

1. What was the relevant environment of the RIF project?

A summary of the attributes of RIF and comparison schools is given in Table 4, and the defining characteristics of RIF and comparison student groups appears in Table 5. Table 6 shows information which describes experimental and comparison teachers.

Careful inspection of Tables 4, 5, and 6 reveals some discrepancies in the matching of experimental and comparison schools, but, in general, schools exhibited very similar characteristics. One such discrepancy may be found in the past reading achievement scores for grade two at Bonham and Houston where the difference in scores was approximately one standard deviation and favored Bonham, the experimental school. Other smaller differences occurred between experimental and comparison schools, but these were isolated to single grade levels and were certainly not consistent across schools. Another difference may be found in the contrast of socio-economic status indicators for experimental and comparison schools. These varied by one for three of the pairs. This discrepancy was judged inconsequential, however, when the ranges of mean educational level of parents were considered, since these were the same for all schools involved in the study.

A more serious discrepancy occurred in the comparison of ethnic composition for Lipscomb and Weiss. The Mexican-Americans comprised 30% of the student population at Lipscomb, while only 9% of the students at the comparison school were Mexican-American. A similar but smaller discrepancy

Table 4

Attributes of Reading-Is-Fundamental and Comparison Schools

School	Treatment[a]	Type	Grade Span	RIF	ADM	ADA	Attendance Ratio
James Bonham	E_1	Traditional	K-6	K-6	595	555	.933
Sam Houston	C_1	Traditional	K-6		527	465	.882
William Lipscomb	E_2	Traditional	K-7	K-7	721	658	.913
Martin Wiess	C_2	Traditional	K-6		446	411	.922
Mt. Auburn	E_3	Traditional	K-7	K-7	722	646	.895
Winnetka	C_3	Traditional	K-7		443	397	.896
J. L. Long	E_4	Traditional	8-9	8-9	1162	1031	.887
Fred Florence	C_4	Traditional	7-9		1636	1477	.903

Note - Data are from Research Report No. 74-246: Dallas Independent School District Management Profiles, 1973-74 (Mallet, 1974).

[a] E_i = ith experimental (RIF) school; C_i = comparison school for ith experimental school.

Table 5

Attributes of Reading-Is-Fundamental and Comparison Student Populations

School	Treatment[a]	Ethnic Composition[b] %A	%N	%MA	%OTH	Socioeconomic Measures Socioeconomic Status Indicator[d]	Range of Mean Educational Level of Parents
James Bonham	E_1	22	1	76	1	2	9-11
Sam Houston	C_1	24	10	65	1	3	9-11
William Lipscomb	E_2	66	3	30	1	2	9-11
Martin Weiss	C_2	71	10	9	0	1	9-11
Mt. Auburn	E_3	45	31	24	1	1	9-11
Winnetka	C_3	56	1	41	2	1	9-11
J. L. Long	E_4	65	17	17	1	2	9-11
Fred Florence	C_4	75	19	6	0	1	9-11

Table 5 (continued)

	Past Reading Achievement (Fall, 1973)[c]								
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9
James Bonham	22.41	53.83	74.45	31.25	28.35	37.73	46.59		
	(9.49)	(12.77)	(18.36)	(16.44)	(12.94)	(15.14)	(17.19)		
Sam Houston	21.20	48.64	59.32	24.28	26.74	40.75	44.83		
	(9.10)	(14.11)	(15.13)	(13.44)	(15.43)	(18.93)	(18.45)		
William Lipscomb	26.16	53.39	77.67	33.93	32.15	41.37	47.53		
	(9.07)	(17.26)	(21.37)	(15.44)	(15.05)	(18.71)	(19.81)		
Martin Weiss	28.00	61.20	77.34	32.96	28.69	35.57	46.00		
	(8.81)	(14.56)	(18.48)	(15.77)	(13.00)	(15.05)	(18.69)		
Mt. Auburn	28.57	54.54	66.04	36.36	29.36	38.54	43.80	33.52	
	(10.52)	(17.57)	(18.71)	(16.29)	(12.42)	(16.72)	(20.43)	(15.45)	
Winnetka	23.53	47.37	69.51	27.47	27.51	41.62	48.86	34.72	
	(10.17)	(14.84)	(18.45)	(14.27)	(14.89)	(15.92)	(20.36)	(16.98)	
J. L. Long Fred Florence									

Note - Data are from Research Report 74-246: Dallas Independent School District Management Profiles, 1973-74 (Mallet, 1974).

[a] E_i = ith experimental (RIF) school; C_i = comparison school(s) for ith experimental school.

[b] A = Anglo, N = Negro, MA = Mexican-American, OTH = Other.

[c] For Grade K, raw score means on the Boehm Test of Basic Concepts-A are given; for Grade 1, raw score means on the Metropolitan Readiness Tests-A (complete battery) are given; for Grade 2, raw score means on the reading test of the California Achievement Tests-1A are given; for Grade 3, raw score means on the reading test of the Comprehensive Tests of Basic Skills (CTBS)Q1 are given; for Grade 4-6, raw score means on the reading test of the CTBS,Q2 are given; and for Grade 7, raw score means on the reading test of the CTBS, Q3 are given.

[d] 1 = Lower, 2 = Lower Middle, 3 = Middle, 4 = Upper Middle, 5 = Upper.

Table 6

Attributes of Reading-Is-Fundamental and Comparison Teachers

School	Treatment[a]	Sex Distribution		Age Distribution					
		% Male	% Female	%<26	% 26-35	%36-45	%56-55	%56-65	%>65
James Bonham	E_1	13	87	9	40	13	17	17	4
Sam Houston	C_1	5	95	21	32	5	11	26	5
William Lipscomb	E_2	11	89	4	22	29	19	19	7
Martin Weiss	C_2	19	81	13	25	43	19	0	0
Mt. Auburn	E_3	10	90	10	40	15	15	15	5
Winnetka	C_3	18	82	18	34	12	18	18	0
J. L. Long	E_4	32	68	18	28	20	16	16	2
Fred Florence	C_4	33	67	13	38	27	14	8	0

Table 6 (continued)

School	Ethnicity[b]				Educational Level		Years Teaching Experience			
	%A	%N	%MA	%OTH	%BA	%MA	%0-5	%6-10	%11-20	%21-40
James Bonham	61	35	4	0	66	34	13	35	22	30
Sam Houston	53	0	42	5	21	79	41	11	16	32
William Lipscomb	70	26	4	0	70	30	8	22	40	30
Martin Weiss	63	37	0	0	56	44	31	6	51	12
Mt. Auburn	75	25	0	0	55	45	25	25	25	25
Winnetka	70	30	0	0	82	18	29	29	12	30
J. L. Long	80	18	0	2	68	32	32	30	16	22
Fred Florence[c]	69	27	4	0	53	43	30	24	27	19

Note - Percentages are for the entire faculty of a given school, although the RIF program may not have been implemented at all grade levels. Data are from Research Report 74-246: Dallas Independent School District Management Profiles, 1973-74 (Mallet, 1974).

[a] E_i = ith experimental (RIF) school; C_i=comparison school(s) for ith experimental school.

[b] A = Anglo, N = Negro, MA = Mexican-American, OTH = Other.

[c] Of the 4% teachers not included in Educational Level, 2% have A.A. degrees and 2% have no degrees.

occurred between Long and Florence. Such differences might be construed as a bias against the experimental schools since language often presents a reading problem for Mexican-American students.

Examination of the attributes of teachers at the experimental and comparison schools shows that the only notable difference was in the comparison of Bonham and Houston teachers. The teachers at Houston had less teaching experience but had achieved a greater educational level than those at Bonham.

Another important variable considered in the relevant environment of the RIF project was the existence of other developmental programs in the experimental and comparison schools. Table 7 gives a summary of that information. Inspection of the table shows different patterns of implementation of special programs for pairs of experimental and comparison schools. One should remember, however, that entry level of experimental and comparison students was quite similar despite exposure to different instructional programs. Nevertheless, the confounding of programs was still a critical limitation to the findings of the study.

Table 7

Special Programs in Reading-Is-Fundamental and Comparison Schools

Program	Bonham Grades K-6	Houston Grades K-6	Lipscomb Grades K-6	Weiss Grades K-6	Mt. Auburn Grades K-7	Winnetka Grades K-7	Long Grades 8-9	Florence Grades 8-9
Mulitage		1/14	2/14	1/12	3/12			
Bilingual Education	12/17	12/14	6/14		8/12			
Reading Clinics	6/17		1/14					
Hoffman		1/14			1/12			
Look, Listen, Learn		1/14			2/12			
ESAA Secondary Reading							2/2	1/1
Right to Read	2/17		1/14		1/12			
Barnell-Loft						4/12		
Science Research Associates	6/17		2/14			4/12		

Note - Data were collected by the Teacher Questionnaire Curriculum Context which appears in Appendix A. The pairs of numbers given may be represented by a/b where a = the number of teachers using the special program, and b = the total number of teachers reporting.

Process Evaluation

2. To what extent were the RIF programs implemented as planned?

Overall, the Reading Is Fundamental project seemed to be well-implemented. Teachers were very enthusiastic about it and reported that their students shared in this excitement. Several teachers provided additional motivation for the students to read the paperback books by allowing them to make reports from the books for extra credit. Others introduced each new book to the children as a means of motivation. In all schools, the books were available to all students, with a small exception, and most students were able to receive a book for their own. Generally, students were required to earn their books in some way, with the requirements ranging from checking out at least one book to reading as many as five books. Teachers often cited the time required in record keeping as a problem, but all felt the project was worth the time. Another problem mentioned was the lack of available paperback books at low reading levels. Ironically, the availability of these books was often cited as an asset of the project.

In reviewing the results of the teacher interviews, Bonham seemed to have the most consistant program across classrooms. All teachers interviewed maintained a RIF library in their classroom and all students appeared to be directly exposed to one of the libraries. The teachers all had some requirement for earning a book and all had conducted two award days. They were consistently very optimistic about the program and its effects. The most common problem at Bonham was inadequate facilities for displaying books.

Lipscomb's RIF Program was not so completely unified as Bonham's. The lower grade level teachers, for example, chose not to award any or only one

book, as they felt the children were not ready for them yet. Another teacher gave three books at one time. One did not require that the book be earned in any way. Each teacher operated the program as she thought best. Although not all teachers interviewed were involved, all students appeared to be directly exposed to one of the program's libraries. And, all teachers were very enthusiastic about RIF, citing the pride of owning a book as one of its greatest benefits.

The RIF books at Mt. Auburn were housed only in the school library, so the program depended upon teacher initiative and encouragement to motivate the students to take part in the program. The teachers accomplished this in varying degrees. Some teachers, for example, allowed their students to go to the library only when they finished their class work, while other teachers took their students to the library regularly for the express purpose of checking out the RIF books. Since the awarding of the books was operated by the librarian only, the requirement for earning a book was consistent for all. The percentage of students receiving books varied greatly from class to class. One teacher estimated 95-100% of her students had received gift books while another estimated that only 10-15% of her students had participated. The attitude of teachers was not so consistently enthusiastic at Mt. Auburn as in the other schools. One teacher felt her students were too old for the program while others felt theirn were too young. Several commented that their children were not able to read and therefore could not take advantage of the program. One teacher viewed RIF as a library program while another referred to it as a supplementary reading program. The kindergarten teachers, although enthusiastic, did not seem to be aware of the total scope of RIF.

This was understandable since RIF had not been available to kindergarten children throughout the year.

RIF was operated by only the two reading teachers at Long Junior High. Since the reading classes already possessed several hundred paperback books, the RIF books were used only as gift books. This allowed a student to receive new books for his own. All students in the reading classes were directly exposed to the paperback books and all had the opportunity to earn a RIF book. The requirement of reading at least one book in order to receive one was consistent for all students as was the number of award days. Both teachers were very enthusiastic about the program and optimistic about its results. They made a special effort to make the award day very special for the students receiving books. The event was held in the library where students' names were announced over a speaking system, and an article with the names of students was written for the school paper. Also, letters announcing the child's accomplishments were sent home to the parents so they could share in the pride of accomplishment.

Product Evaluation

3. *What were teachers' opinions regarding the adequacy of the RIF project?*

Item 18 of the Teacher Interview Schedule, which was used to collect process data, asked for the teacher's subjective opinion regarding the adequacy of RIF. The data collected by this item were analyzed and reported to project management by Averitt (1974a).

Findings indicated that teachers overwhelming agreed that RIF accomplished its objectives in motivating students to want to read and improving students' self-images. Opinions about the improvement of reading skills were more

divided, but the majority of teachers felt that this objective was also met in the project. One area in which RIF did not succeed was that of direct parental involvement in the classroom. No teacher reported having any parent help her with the operation of RIF in the classroom, and many felt this was an unrealistic goal. However, almost one-third of the teachers interviewed did feel that RIF had helped parents to become more involved in the education of their children.

4. *What were students' opinions regarding the RIF project?*

Students' opinions regarding RIF were captured through structured interviews using the Student Interview Schedule. The results of these interviews were reported by Averitt (1974b) to project personnel and are summarized here.

In general, students responded favorably to questions concerning the RIF books. Ninety percent of the students interviewed, for example, agreed that the books were interesting while 89% wanted to have the project available to them during the next school year. Most of the students (77%) also felt that the project had benefitted them academically, and all who had received a book said they enjoyed being able to choose one for their own. The high interest level of the books was an important factor to the students, for, in spite of the great appreciation of RIF, 29% claimed that the books were either too difficult or too easy. One goal which was not achieved by the majority of students interviewed was the purchase of similar books for personal collections. Thirty-four percent of the students interviewed claimed they bought books like the RIF books.

The students who participated in RIF were generally very pleased to talk about the program. They often expressed their enthusiasm for the books

and were eager to tell about particular books they had read. Other students who inquired about the interviewer's purpose were also often anxious to express their favorable opinions. The students appeared to place value in both reading the books and receiving them. On the other hand, those students (approximately 6% of those interviewed) who had not participated in RIF, either by reading the books or having the books read to them, did not seem to feel they were missing out. Neither did they appear to have much knowledge about the project.

5. *What were parents' opinions regarding the adequacy of the RIF project?*

Following is a summary of responses to the Parent Questionnaire.

1. How many paperback books has your child received this year from the Reading is Fundamental Program in his school?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
None	5% (n=1)	10% (n=2)	6% (n=1)		6% (n=4)
One		5% (n=1)	24% (n=4)		8% (n=5)
Two	16% (n=3)	5% (n=1)	12% (n=2)	29% (n=2)	13% (n=8)
Three	32% (n=6)	35% (n=7)	18% (n=3)	57% (n=4)	32% (n=20)
Four	16% (n=3)	25% (n=5)	12% (n=2)	14% (n=1)	17% (n=11)
Five	21% (n=4)	15% (n=3)	18% (n=3)		16% (n=10)
Six or more	11% (n=2)	5% (n=1)	12% (n=2)		8% (n=5)

Note: One parent each at Mt. Auburn and Long did not answer this question.

2. Have other members of your family read the paperback books your child has received at school?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
Yes	84% (n=16)	85% (n=17)	56% (n=10)	50% (n=4)	72% (n=47)
No	16% (n=3)	15% (n=3)	44% (n=8)	50% (n=4)	28% (n=18)

3. Has your child's interest in reading improved because of Reading is Fundamental?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
Yes	100% (n=19)	75% (n=15)	61% (n=11)	50% (n=4)	75% (n=49)
No		15% (n=3)	6% (n=1)	13% (n=1)	8% (n=5)
Don't Know		10% (n=2)	33% (n=6)	38% (n=3)	17% (n=11)

4. Has your child's interest in school improved because of Reading is Fundamental?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
Yes	63% (n=12)	50% (n=10)	56% (n=10)	50% (n=4)	55% (n=36)
No	11% (n=2)	10% (n=2)	11% (n=2)	13% (n=1)	11% (n=7)
Don't Know	26% (n=5)	40% (n=8)	33% (n=6)	38% (n=3)	34% (n=22)

5. Has your child read at home more this year than last?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
Yes	89% (n=17)	75% (n=15)	78% (n=14)	88% (n=7)	82% (n=53)
No		5% (n=1)	17% (n=3)	13% (n=1)	8% (n=5)
Don't Know	11% (n=2)	20% (n=4)	6% (n=1)		11% (n=7)

6. Approximately how many books have you bought for your child during the last year?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
None	33% (n=6)	32% (n=6)	22% (n=4)	13% (n=1)	27% (n=17)
One-Three	22% (n=4)	26% (n=5)	44% (n=8)	38% (n=3)	32% (n=20)
Four-Six	11% (n=2)	5% (n=1)	11% (n=2)	13% (n=1)	8% (n=6)
Seven-Ten	22% (n=4)	11% (n=2)	6% (n=1)	13% (n=1)	13% (n=8)
More than Ten	11% (n=2)	26% (n=5)	17% (n=3)	25% (n=2)	16% (n=12)

Note: One parent each at Bonham and Lipscomb did not answer this question.

7. Approximately how many books did you buy for your child during the year before last?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
None	44% (n=8)	37% (n=7)	47% (n=8)	13% (n=1)	39% (n=24)
One-Three	17% (n=3)	32% (n=6)	24% (n=4)	50% (n=4)	27% (n=17)
Four-Six	17% (n=3)	11% (n=2)	12% (n=2)	13% (n=1)	13% (n=8)
Seven-Ten	17% (n=3)	5% (n=1)	18% (n=3)	13% (n=1)	13% (n=8)
More than Ten	6% (n=1)	16% (n=3)	0% (n=0)	13% (n=1)	8% (n=5)

Note: One parent each at Bonham, Lipscomb, and Mt. Auburn did not answer this question.

8. Has your child expressed a greater interest in trips to the public or school library?

Answer	Bonham	Lipscomb	Mt. Auburn	Long	Total
Yes	74% (n=14)	80% (n=16)	83% (n=15)	63% (n=5)	77% (n=50)
No	5% (n=1)	15% (n=3)	6% (n=1)	25% (n=2)	11% (n=7)
Don't Know	21% (n=4)	5% (n=1)	11% (n=2)	13% (n=1)	12% (n=8)

Obviously, parents' opinions regarding RIF were very favorable, for large percentages of respondents (55%-77%) agreed that their child's interest in reading, school and the libraries improved. Also, parents reported that their child not only read more at home this year than last, but other members of the family also read the RIF books. Approximately one-third of the parents reported that their child has been awarded three RIF books while approximately one-third claimed their child had received more than three books. Parents reported having bought their children more books this year than last, (27% reported buying no books this year as compared to 39% who bought no books last year). This extremely favorable sentiments expressed by parents must be tempered, however, with the realization that findings are based on responses by 51% of the parents who chose to complete and return the questionnaire.

6. *How did students exposed to the RIF project perform on a reading skills test relative to selected comparison students not exposed to the project?*

7. *What differences in attitude toward school, self-concept and reading sentiment, as measured by the School Perceptions Scale, (Form B), existed between students exposed to the RIF project and selected comparison students?*

8. *Was there a difference in attitude toward reading, as measured in behavioral terms using the Scale of Reading Attitude Based on Behavior, between students exposed to the RIF project and selected comparison students?*

Means and standard deviations for RIF and comparison students for each of the five criterion variables are shown in Tables 8, 9, 10, 11 and 12. Respective criteria are reading skills (RS), attitude toward school (ATS), self-concept (SC), attitude toward reading (ATR), and teachers' ratings of students' attitudes as inferred by overt behavior (TRB). Statistics are presented only by program (i.e., data for sexes and individual schools within instructional treatment are pooled) and grade level. Analysis of variance tables for all data are given in Appendices B, C, D, E, and F.

Table 8

Summary Statistics for Reading Skills Data

Grade	Pretest[a]						Posttest[b]					
	RIF			NonRIF			RIF			NonRIF		
	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)
K	48	27.3	(10.34)	45	27.9	(8.45)	48	19.1	(4.28)	45	18.2	(4.11)
1	43	54.7	(15.44)	40	51.6	(14.59)	43	20.5	(3.74)	40	20.4	(3.46)
2	63	74.7	(20.48)	54	73.8	(16.02)	63	18.4	(3.86)	54	16.9	(3.72)
3	64	34.4	(18.10)	39	28.6	(14.73)	64	20.0	(3.28)	39	18.7	(3.90)
4	57	29.3	(11.72)	60	26.6	(14.06)	57	12.5	(4.53)	60	11.6	(4.86)
5	58	40.0	(16.69)	66	42.7	(18.07)	58	16.0	(4.25)	66	15.2	(5.16)
6	63	47.3	(19.44)	62	49.3	(19.65)	63	15.5	(4.63)	62	16.2	(4.64)
7	23	33.1	(12.69)	21	38.7	(17.54)	23	14.6	(4.51)	21	18.1	(4.93)
8	21	29.9	(9.30)	22	33.8	(11.22)	21	15.1	(4.74)	22	14.1	(3.80)
9	11	22.0	(6.39)	9	20.8	(3.42)	11	15.3	(4.27)	9	19.1	(3.33)

Note - Statistics are based on raw scores.

[a]Grade K: Boehm Tests of Basic Concepts, Form A; Grade 1: Metropolitan Readiness Test, Form A; Grade 2: reading test of the California Achievement Tests, Level 1, Form A; Grade 3: reading test of the Comprehensive Tests of Basic Skills, Level 1, Form Q; Grades 4-6: reading test of the Comprehensive Tests of Basic Skills, Level 2, Form Q; Grades 7,8: reading test of the Comprehensive Tests of Basic Skills, Level 3, Form Q; Grade 9: Iowa Tests of Educational Development, Level 5, Form X.

[b]Grades K, 1: Exp. Survey of Reading Skills, K-1; Grades 2,3: Exp. Survey of Reading Skills, 2-3; Grades 4-9 Exp. Survey of Reading Skills, 4-9.

Table 9

Summary Statistics for Attitude-Toward-School Data

Grade	Pretest						Posttest					
	RIF			NonRIF			RIF			NonRIF		
	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)
K	40	9.7	(1.30)	34	9.6	(1.07)	40	10.2	(1.22)	34	10.4	(1.13)
1	42	9.9	(1.67)	53	10.8	(1.15)	42	11.1	(1.05)	53	10.9	(1.06)
2	60	21.3	(2.30)	58	19.9	(2.52)	60	21.3	(2.39)	58	20.6	(2.35)
3	55	21.3	(5.52)	56	21.2	(2.31)	55	20.8	(5.20)	56	20.6	(2.66)
4	52	37.7	(7.02)	59	37.6	(6.52)	52	34.5	(6.66)	59	36.1	(7.86)
5	58	36.5	(6.64)	60	37.9	(7.02)	58	34.4	(7.37)	60	36.3	(7.77)
6	63	35.7	(5.28)	52	37.3	(3.70)	63	35.0	(6.92)	52	36.4	(5.40)
7	18	38.5	(4.11)	20	38.4	(3.96)	18	33.6	(5.79)	20	36.0	(5.17)
8	19	37.3	(4.55)	21	32.2	(4.88)	19	36.5	(4.86)	21	29.4	(7.19)
9	11	37.1	(8.37)	8	34.5	(5.90)	11	38.4	(6.34)	8	31.0	(6.30)

Note - Data were from the School Perceptions Scale, Form B. Scoring was such that a higher score indicated a more positive attitude.

Table 10

Summary Statistics for Self-Concept Data

Grade	Pretest						Posttest					
	RIF			NonRIF			RIF			NonRIF		
	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)
K	40	9.9	(1.24)	34	9.8	(1.17)	40	10.4	(1.12)	34	10.3	(1.25)
1	42	10.7	(1.05)	53	10.6	(1.16)	42	11.0	(0.88)	53	10.8	(0.75)
2	60	21.3	(2.08)	58	20.3	(2.36)	60	21.1	(2.00)	58	20.4	(2.76)
3	55	21.5	(4.92)	56	21.2	(1.63)	55	21.4	(4.97)	56	20.1	(2.60)
4	52	39.2	(5.90)	59	41.0	(5.18)	52	38.3	(6.07)	59	39.8	(7.13)
5	58	40.6	(5.00)	60	41.1	(6.43)	58	40.2	(5.91)	60	40.8	(5.79)
6	63	39.4	(5.21)	52	40.7	(2.86)	63	39.0	(5.06)	52	40.9	(4.21)
7	18	42.0	(3.56)	20	41.0	(4.84)	18	40.8	(5.26)	20	41.9	(4.63)
8	19	40.9	(4.42)	21	39.0	(4.74)	19	40.5	(4.25)	21	36.2	(5.83)
9	11	39.9	(5.63)	8	40.8	(3.20)	11	39.4	(6.65)	8	39.0	(4.84)

Note - Date were from the School Perceptions Scale, Form B. Scoring was such that a higher score indicated a more positive self-concept.

Table 11

Summary Statistics for Attitude-Toward-Reading Data

Grade	Pretest						Posttest					
	RIF			NonRIF			RIF			NonRIF		
	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)
K	40	10.1	(1.31)	34	10.3	(1.47)	40	10.5	(1.41)	34	10.7	(1.47)
1	42	11.0	(1.24)	53	10.9	(1.31)	42	11.1	(1.27)	53	11.3	(0.98)
2	60	21.8	(2.49)	58	20.8	(2.78)	60	21.0	(2.76)	58	21.1	(2.54)
3	55	21.2	(5.63)	56	22.0	(2.02)	55	20.8	(4.80)	56	21.2	(3.37)
4	52	39.4	(6.25)	59	39.2	(5.76)	52	36.8	(6.67)	59	37.6	(8.17)
5	58	39.4	(6.60)	60	38.6	(7.53)	58	36.0	(7.03)	60	38.4	(8.14)
6	63	38.2	(6.10)	52	38.7	(4.67)	63	37.2	(6.68)	52	37.3	(6.24)
7	18	39.5	(4.99)	20	38.6	(6.09)	18	36.8	(6.01)	20	37.3	(6.87)
8	19	37.6	(5.82)	21	34.1	(6.28)	19	36.0	(4.53)	21	29.6	(8.61)
9	11	37.1	(7.96)	8	34.6	(4.72)	11	36.3	(10.89)	8	33.1	(5.89)

Note - Data were from the School Perceptions Scale, Form B. Scoring was such that a higher score indicated a more positive attitude.

Table 12

Summary Statistics for Teachers Ratings of Students' Attitudes Toward Reading

Grade	Pretest						Posttest					
	RIF			NonRIF			RIF			NonRIF		
	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)	n	$\bar{x}$	($\hat{\sigma}$)
K	52	78.2	(30.37)	57	57.8	(27.92)	52	58.9	(33.00)	57	62.4	(28.68)
1	52	87.0	(32.95)	61	65.1	(25.23)	52	75.2	(30.68)	61	63.8	(28.19)
2	70	63.9	(31.71)	72	57.2	(28.94)	70	56.2	(28.93)	72	55.8	(27.42)
3	68	65.6	(27.02)	66	60.8	(30.41)	68	58.9	(31.37)	66	54.6	(30.00)
4	64	61.6	(30.70)	73	68.8	(29.32)	64	61.6	(28.55)	73	61.0	(27.86)
5	65	68.4	(30.26)	67	55.6	(27.11)	65	66.3	(32.15)	67	62.8	(28.82)
6	77	60.3	(30.30)	75	65.3	(39.52)	77	56.4	(32.89)	75	65.9	(36.87)
7	28	90.4	(34.94)	24	65.3	(41.74)	28	85.1	(36.87)	24	68.3	(40.66)
8	26	82.0	(33.57)	25	95.4	(26.16)	26	75.3	(26.94)	25	81.4	(36.30)
9	18	53.9	(32.03)	11	106.7	(28.78)	18	48.1	(21.65)	11	98.2	(47.37)

Note - Data were from the Scale of Reading Attitude Based on Behavior. Scoring was such that a higher score indicated a less positive attitude.

Inspection of Table 13, which summarizes the tests of hypotheses for differences between instructional treatments (RIF and comparison) adjusted by pretest level, indicates little consistent effect of the RIF project in producing positive changes for any of the criteria. Statistically significant differences in favor of RIF students were found at grade 2 ($p<.01$) and grade 5 ($p<.05$) for the RS criterion, at grades 1 and 9 for the ATS criterion ($p<.05$), at grades 3 and 8 for the SC criterion ($p<.05$), at grade 8 for the ATR criterion, and at grade 4 for the SRA criterion ($p<.05$).

However, comparison students outperformed RIF students in the following instances: grades 7 and 9 for the RS criterion ($p<.05$), grade 5 for the ATR criterion ($p<.01$), and grade K ($p<.01$) and grade 5 ($p<.05$) for the SRA criterion. In all other cases the hypothesis of equal treatment effects was not rejected.

Table 13

Summary of Tests of Hypotheses for Differences Between RIF and Comparison Students

Grade Level	Criterion				
	RS[a]	ATS[b]	SC[c]	ATR[d]	SRA[e]
0	n.s.	n.s.	n.s.	n.s.	nonRIF>RIF**
1	n.s.	RIF>nonRIF*	n.s.	n.s.	n.s.
2	RIF>nonRIF**	n.s.	n.s.	n.s.	n.s.
3	n.s.	n.s.	RIF>nonRIF*	n.s.	n.s.
4	n.s.	n.s.	n.s.	n.s.	RIF>nonRIF*
5	RIF>nonRIF*	n.s.	n.s.	nonRIF>RIF**	nonRIF>RIF*
6	n.s.	n.s.	n.s.	n.s.	n.s.
7	nonRIF>RIF*	n.s.	n.s.	n.s.	n.s.
8	n.s.	n.s.	RIF>nonRIF*	RIF>nonRIF*	n.s.
9	nonRIF>RIF*	RIF>nonRIF*	n.s.	n.s.	n.s.

Note - Tests of hypotheses concerning differences between instructional treatments (in the presence of schools nested within treatments) after adjustment for the linear trend in the relationship between the posttest and pretest

[a]RS = reading skills

[b]ATS = attitude toward school

[c]SC = self-concept

[d]ATR = attitude toward reading

[e]SRA = teachers' ratings of students' attitudes toward reading

n.s. = not signficant

* $p<.05$

** $p<.01$

Discussion

Data for the present study indicated that each of the four RIF programs were adequately implemented although differences in degree of implementation were evident. It was also found that the RIF programs were not uniformly organized. In cases where individual teachers were responsible for implementation, more comments were received regarding deficiencies in conducting the program. Time required in record keeping and lack of facilities for displaying books were the problems most frequently cited. When the RIF program was placed under coordination of the librarian, the aforementioned problems were somewhat overcome, but were in turn replaced by other problems. For example, with the program removed from the classroom some teachers appeared more reluctant to participate. Also, under the rule that only students who finished their class work could go to the library to participate in RIF, it was possible that students of lower ability could have received less exposure to the RIF books. Thus, it would appear that the RIF programs could have benefited from more careful planning and coordination at the building level.

In general, teachers' enthusiasm about the RIF project was very high. Students and parents also gave very favorable reports concerning the project. On the other hand, paper-and-pencil tests administered to students and teachers' ratings of students' attitudes toward reading indicated that RIF students as a group did not consistently score higher than similar students not exposed to the project. Interpretation of the findings, however, must be made in the presence of three critical limitations: (a) confounding resulting from the presence of different special projects among experimental and comparison schools, (b) use of a quasi-experimental design, and

(c) generalizibility to only RIF programs sponsored by the East Dallas Exchange Club.

Support of the RIF effort in the home by parents was a very encouraging finding. Previous research (Athey, 1966; Greenburg, 1970) had demonstrated that home environment is an important element in determining motivation to read and that poor readers depend more on parents than do good readers. Thus, if RIF is to have a significant impact in improving students' motivation and utility in reading, it must have follow-up in the home. The enthusiasm communicated by students when they were interviewed also reflected favorably on the project, as did the positive opinions expressed by teachers. However, the paucity of significant findings for the paper-and-pencil tests and teachers' ratings of students' attitudes would indicate general failure of the project in some of its critical objectives.

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Appendix A

Department of Research & Evaluation
Dallas Independent School District

Teacher Questionnaire
Curriculum Context

Name_____

School_____

Directions: *The questions below relate to the curriculum materials which you may have used in your classroom. Please answer each question by circling the number of the response choice which is correct for you. Make certain that you place your name and the name of your school in the spaces provided above.*

I. What basal reading program have you used in your classroom?

1. Houghton Mifflin only
2. Economy (Keys to Reading) only
3. Houghton Mifflin and Economy

II. What other curricular programs have been used in your classroom or school?

	Used	Not Used
Multiage Project (MAP)	1	2
Bilingual Education Program (BEP)	1	2
Reading Clinics	1	2
Hoffman Reading Program	1	2
BRL/Sullivan Reading (BRL)	1	2
Look, Listen, Learn (LLL)	1	2
Southwest Regional Laboratory Reading Program (SWRL)	1	2
ESAA Secondary Reading	1	2
Right to Read	1	2
Reading is Fundamental	1	2
Other (specify): _____		
_____		

Appendix B

ANOVA Tables for the Analysis of Reading Skills Data

Model: $y_{ijkm} = \mu + \alpha_i + \beta_{j(i)} + \gamma_k + bz_{ijkm} + \varepsilon_{ijkm}$

$i = 1, 2; j = 1, 2, 3; k = 1, 2; m = 1, \ldots, n_{ijkm}$

where α represents the effect of instructional treatment (RIF, nonRIF), β represents the effect of school within instructional treatment, γ represents the effect for pupils sex, and z is the concomitant defined by pretest score.

Source	df	SS	MS	F
Grade K				
Total	93	33993		
μ	1	32368.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	317.0	317.02	21.76**
$\alpha\|\mu, \gamma, b$	1	26.1	26.12	1.79
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	55.6	13.91	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.4	0.36	<1
Residual Error	85	1238.6	14.57	
Grade 1				
Total	83	35753		
μ	1	34696.5		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	173.1	173.12	16.54**
$\alpha\|\mu, \gamma, b$	1	1.3	1.26	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	94.9	23.72	2.27
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.2	0.23	<1
Residual Error	75	785.0	10.47	
Grade 2				
Total	117	38412		
μ	1	36693.9		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	800.9	800.89	142.99**
$\alpha\|\mu, \gamma, b$	1	51.7	51.67	9.22**
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	163.2	40.81	7.29**
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	21.9	21.86	3.90
Residual Error	109	610.5	5.60	

Appendix B (continued)

Source	df	SS	MS	F
	Grade 3[a]			
Total	103	40522		
μ	1	39224.3		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	466.3	466.27	58.98**
$\alpha\|\mu, \gamma, b$	1	7.3	7.26	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	3	1.2	0.40	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.5	0.53	<1
Residual Error	96	758.9	7.91	
	Grade 4			
Total	117	19437		
μ	1	16872.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1137.6	1137.64	99.52**
$\alpha\|\mu, \gamma, b$	1	1.1	1.12	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	100.7	25.18	2.20
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.4	0.14	<1
Residual Error	109	1246.0	11.43	
	Grade 5			
Total	124	32847		
μ	1	30070.7		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1042.9	1042.88	88.98**
$\alpha\|\mu, \gamma, b$	1	46.7	46.73	3.99*
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	82.3	20.58	1.76
$\gamma\|\mu, \alpha, \beta{:}\alpha, \gamma, b$	1	17.6	17.61	1.50
Residual Error	116	1359.6	11.72	
	Grade 6			
Total	125	34152		
μ	1	31490.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1520.8	1520.81	192.07**
$\alpha\|\mu, \gamma, b$	1	2.9	2.87	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	7.8	1.96	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, \gamma, b$	1	35.5	35.48	4.48*
Residual Error	117	926.4	7.92	

Appendix B (continued)

Source	df	SS	MS	F
	Grade 7[b]			
Total	44	12689		
μ	1	11618.8		
$b\|\mu, \alpha, \gamma$	1	358.7	358.71	28.72**
$\alpha\|\mu, \gamma, b$	1	68.0	67.99	5.44*
$\gamma\|\mu, \alpha, b$	1	46.2	46.16	3.70
Residual Error	40	4996.2	12.49	
	Grade 8[b]			
Total	43	9907		
μ	1	9142.5		
$b\|\mu, \alpha, \gamma$	1	230.1	230.08	17.21**
$\alpha\|\mu, \gamma, b$	1	35.9	35.93	2.69
$\gamma\|\mu, \alpha, b$	1	3.4	3.39	<1
Residual Error	39	521.3	13.37	
	Grade 9[b]			
Total	20	6124		
μ	1	5780.0		
$b\|\mu, \alpha, \gamma$	1	68.6	68.60	5.63*
$\alpha\|\mu, \alpha, b$	1	88.6	88.56	7.27*
$\gamma\|\mu, \alpha, b$	1	0.9	0.93	<1
Residual Error	16	194.9	12.18	

[a]No data were available for Weiss Elementary School at grade 3; therfore, df for β were reduced by one.

[b]Only two schools, one experimental school and one comparison school were included in the design; therefore, the β factor (school within curriculum) was not included in the model.

* $p < .05$

** $p < .01$

Appendix C

ANOVA Tables for the Analysis of Attitude-Toward-School Data

Model: $y_{ijkm} = \mu + \alpha_i + \beta_{j(i)} + \gamma_k + bz_{ijkm} + \varepsilon_{ijkm}$

$i = 1, 2;\ j = 1, 2, 3;\ k = 1, 2;\ m = 1, \ldots, n_{ijkm}$

where α represents the effect of instructional treatment (RIF, nonRIF), β represents the effect of school within instructional treatment, γ represents the effect for pupil sex, and z is the concomitant defined by pretest score.

Source	df	SS	MS	F
	Grade K[a]			
Total	74	7885		
μ	1	7784.9		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	9.6	9.61	7.71**
$\alpha\|\mu, \gamma, b$	1	0.8	0.84	<1
$\beta\ \alpha\|\mu, \alpha, \gamma, b$	1	9.5	3.18	2.55
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.7	0.69	<1
Residual Error	67	83.5	1.25	
	Grade 1			
Total	95	11622		
μ	1	11517.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	14.0	13.98	14.72**
$\alpha\|\mu, \gamma, b$	1	5.9	5.90	6.21*
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	4.5	1.12	1.1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	.1	0.13	<1
Residual Error	87	826.4	0.95	
	Grade 2			
Total	118	52452		
μ	1	51786.3		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	39.2	39.24	7.86**
$\alpha\|\mu, \delta, b$	1	2.5	2.51	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	38.5	9.62	1.93
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	1.2	1.20	<1
Residual Error	110	549.3	4.99	

Appendix C (continued)

Source	df	SS	MS	F
Grade 3				
Total	111	49342		
μ	1	47492.0		
$b\|\mu, \alpha, \beta{:}\alpha\|\gamma$	1	873.9	873.95	97.77**
$\alpha\|\mu, \gamma, b$	1	0.8	0.76	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	35.3	8.82	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.4	0.44	<1
Residual Error	103	920.7	8.94	
Grade 4				
Total	111	144780		
μ	1	138860.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1446.9	1446.91	37.32**
$\alpha\|\mu, \alpha, b$	1	68.5	68.49	1.77
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	387.6	96.90	2.50*
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	14.7	14.73	<1
Residual Error	103	3993.0	38.77	
Grade 5				
Total	118	154055		
μ	1	147292.9		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	2505.9	2505.94	75.12**
$\alpha\|\mu, \gamma, b$	1	24.8	24.76	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	48.3	12.07	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	21.6	21.56	<1
Residual Error	110	3669.3	33.36	
Grade 6				
Total	115	150479		
μ	1	145960.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	592.0	591.96	18.76**
$\alpha\|\mu, \gamma, b$	1	9.2	9.20	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	355.5	88.86	2.82*
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.8	0.77	<1
Residual Error	107	3376.6	31.56	

Appendix C (continued)

Source	df	SS	MS	F
	Grade 7[b]			
Total	38	47333		
μ	1	46200.7		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	318.5	318.48	14.36**
$\alpha\|\mu, \gamma, b$	1	59.2	59.24	2.67
$\gamma\|\mu, \alpha, b$	1	0.2	0.22	<1
Residual Error	34	753.9	22.17	
	Grade 8[b]			
Total	40	44994		
μ	1	43033.6		
$b\|\mu, \alpha, \gamma$	1	186.7	186.74	6.02*
$\alpha\|\mu, \gamma, b$	1	27.9	27.85	<1
$\gamma\|\mu, \alpha, b$	1	139.6	139.57	4.50*
Residual Error	36	1117.6	31.04	
	Grade 9[b]			
Total	19	24558		
μ	1	23626.3		
$b\|\mu, \alpha, \gamma$	1	225.5	225.46	10.82**
$\alpha\|\mu, \gamma, b$	1	142.4	142.43	6.84*
$\gamma\|\mu, \alpha, b$	1	21.0	20.97	1.01
Residual Error	15	312.5	20.83	

[a]No data were available for Weiss Elementary School at grade K; therefore, df for β were reduced by one.

[b]Only two schools, one experimental school and one comparison school, were included in the desing; therfore, the β factor (school within curriculum) was not included in the model.

* $p < .05$
** $p < .01$

Appendix D

ANOVA Tables for the Analysis of Self-Concept Data

Model: $y_{ijkm} = \mu + \alpha_i + \beta_{j(i)} + \gamma_k + bz_{ijkm} + \varepsilon_{ijkm}$

$i = 1, 2;\ j = 1, 2, 3;\ k = 1, 2;\ m = 1, \ldots, n_{ijkm}$

where α represents the effect of instructional teatment (RIF, nonRIF), β represents the effect of school within instructional treatment, γ represents the effect for pupil sex, and z is the concomitant defined by pretest score.

Source	df	SS	MS	F
	Grade K[a]			
Total	74	8009		
μ	1	7908.4		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	14.4	14.37	11.82**
$\alpha\|\mu, \alpha, b$	1	0.0	0.00	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	3	4.2	1.39	1.14
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.0	0.01	<1
Residual Error	67	81.4	1.22	
	Grade 1			
Total	95	11316		
μ	1	11254.3		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	8.7	8.73	15.35**
$\alpha\|\mu, \alpha, b$	1	0.2	0.19	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	1.7	0.42	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.8	0.82	1.44
Residual Error	87	49.5	.57	
	Grade 2			
Total	118	51427		
μ	1	50744.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	43.1	43.06	8.71**
$\alpha\|\mu, \gamma, b$	1	2.9	2.92	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	67.8	16.95	3.43*
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	3.1	3.14	<1
Residual Error	110	543.8	4.94	

Appendix D (continued)

Source	df	SS	MS	F
Grade 3				
Total	111	49619		
μ	1	47865.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	880.1	880.13	131.73**
$\alpha\|\mu, \gamma, b$	1	36.1	36.15	5.41*
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	49.8	12.44	1.86
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	22.7	22.69	3.40
Residual Error	103	688.2	6.68	
Grade 4				
Total	111	174345		
μ	1	169455.6		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	494.8	494.79	12.75**
$\alpha\|\mu, \gamma, b$	1	17.5	17.54	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	329.5	82.36	2.12
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	12.3	12.30	<1
Residual Error	103	3997.4	38.81	
Grade 5				
Total	118	197282		
μ	1	193306.6		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	464.3	464.31	16.71**
$\alpha\|\mu, \gamma, b$	1	4.8	4.76	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	208.1	52.02	1.87
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	14.8	14.81	<1
Residual Error	110	3056.4	27.79	
Grade 6				
Total	115	185156		
μ	1	183181.7		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	460.1	460.14	24.96**
$\alpha\|\mu, \gamma, b$	1	47.2	47.17	2.56
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	30.7	7.69	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	1.8	1.83	<1
Residual Error	107	1972.5	18.43	

Appendix D (continued)

Source	df	SS	MS	F
	Grade 7[b]			
Total	38			
μ	1	65031.2		
$b\|\mu, \alpha, \gamma, b$	1	139.0	139.02	6.68*
$\alpha\|\mu, \gamma, b$	1	21.3	21.30	1.02
$\gamma\|\mu, \alpha, b$	1	6.8	6.81	<1
Residual Error	34	707.6	20.81	
	Grade 8[b]			
Total	40	59706		
μ	1	58522.5		
$b\|\mu, \alpha, \gamma$	1	52.1	52.06	2.20
$\alpha\|\mu, \alpha, b$	1	123.4	123.44	5.23*
$\gamma\|\mu, \alpha, b$	1	69.3	69.34	2.94
Residual Error	36	850.2	23.62	
	Grade 9[b]			
Total	19	29819		
μ	1	29211.8		
$b\|\mu, \alpha, \gamma$	1	230.8	230.83	16.50**
$\alpha\|\mu, \alpha, b$	1	3.4	3.40	<1
$\gamma\|\mu, \alpha, b$	1	10.3	10.34	<1
Residual Error	15	209.9	13.99	

[a]No data were available for Weiss Elementary School at grade K; therfore, df for β were reduced by one.

[b]Only two schools, one experimental school and one comparison school, were included in the design; therefore, the β factor (school within curriculum) was not included in the model.

* $p < .05$
** $p < .01$

Appendix E

ANOVA Tables for the Analysis of Attitude-Toward-Reading Data

Model: $y_{ijkm} = \mu + \alpha_i + \beta_{j(i)} + \gamma_k + bz_{ijkm} + \varepsilon_{ijkm}$

$i = 1, 2; j = 1, 2, 3; k = 1, 2; m = 1, \ldots, n_{ijkm}$

where α represents the effect of instructional treatment (RIF, nonRIF), β represents the effect of school within instructional treatment, γ represents the effect for pupil sex, and z is the concomitant defined by pretest score.

Source	df	SS	MS	F
Grade K				
Total	74	8435		
μ	1	8285.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	12.1	12.11	6.29*
$\alpha\|\mu, \alpha, b$	1	0.3	.29	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	3	4.6	1.52	<1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	4.0	4.03	2.09
Residual Error	67	129.1	1.93	
Grade 1				
Total	95	12124		
μ	1	12006.6		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	7.3	7.27	6.43*
$\alpha\|\mu, \alpha, b$	1	1.3	1.26	1.12
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	11.2	2.80	2.48*
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	0.9	0.86	<1
Residual Error	87	98.3	1.13	
Grade 2				
Total	118	53108		
μ	1	52290.3		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	57.7	57.70	9.31**
$\alpha\|\mu, \gamma, b$	1	6.7	6.73	1.09
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	44.1	11.03	1.78
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	2.3	2.26	<1
Residual Error	110	681.8	6.20	

Appendix E (continued)

Source	df	SS	MS	F
Grade 3				
Total	111	50952		
μ	1	49077.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	388.4	388.44	28.86**
$\alpha\|\mu, \gamma, b$	1	0.1	0.06	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	60.4	15.11	1.12
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	4.6	4.60	<1
Residual Error	103	16386.3	13.46	
Grade 4				
Total	111	159895		
μ	1	153740.2		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1281.3	1281.32	32.51**
$\alpha\|\mu, \gamma, b$	1	22.8	22.84	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	314.5	78.63	1.99
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	51.7	51.70	1.31
Residual Error	103	4060.0	39.42	
Grade 5				
Total	118	170520		
μ	1	163620.6		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1748.9	1748.00	46.64**
$\alpha\|\mu, \gamma, b$	1	263.2	263.21	7.02**
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	208.1	52.02	1.39
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	110.8	110.81	2.96
Residual Error	110	4122.9	37.48	
Grade 6				
Total	115	163971		
μ	1	159216.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	1356.2	1356.18	47.85**
$\alpha\|\mu, \gamma, b$	1	1.1	1.05	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	186.6	46.64	1.65
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	36.7	36.66	1.29
Residual Error	107	3032.4	28.34	

Appendix E (continued)

Source	df	SS	MS	F
	Grade 7[b]			
Total	38	53682		
μ	1	52170.1		
$b\|\mu, \alpha, \gamma$	1	634.4	634.43	26.49**
$\alpha\|\mu, \gamma, b$	1	15.3	15.31	<1
$\gamma\|\mu, \alpha, b$	1	0.8	0.85	<1
Residual Error	34	814.2	23.95	
	Grade 8[b]			
Total	40	44839		
μ	1	42575.6		
$b\|\mu, \alpha, \gamma$	1	109.0	108.96	2.66
$\alpha\|\mu, \gamma, b$	1	247.6	247.58	6.03*
$\gamma\|\mu, \alpha, b$	1	96.7	96.65	2.36
Residual Error	36	1476.8	41.02	
	Grade 9[b]			
Total	19	24680		
μ	1	23205.1		
$b\|\mu, \alpha, \gamma$	1	437.6	437.60	22.89**
$\alpha\|\mu, \gamma, b$	1	0.0	0.04	<1
$\gamma\|\mu, \alpha, b$	1	173.5	173.51	9.07**
Residual Error	15	286.9	19.13	

[a]No data were available for Weiss Elementary School at grade K; therefore, df for β were reduced by one.

[b]Only two schools, one experimental school and one comparison school, were included in the design; therefore, the β factor (school within curriculum) was not included in the model.

* $p < .05$
** $p < .01$

Appendix F

ANOVA Tables for the Analysis of Teachers' Ratings of Students' Attitudes

Model: $y_{ijkm} = \mu + \alpha_i + \beta_{j(i)} + \gamma_k + bz_{ijkm} + \varepsilon_{ijkm}$

$i = 1, 2;\ j = 1, 2, 3;\ k = 1, 2;\ m = 1, \ldots, n_{ijkm}$

where α represents the effect of instructional treatment (RIF, nonRIF), β represents the effect of school within instructional treatment, γ represents the effect for pupil sex, and z is the concomitant defined by pretest score.

Source	df	SS	MS	F
	Grade K			
Total	109	503831		
μ	1	401937.3		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	38780.7	38780.72	86.64**
$\alpha\|\mu, \gamma, b$	1	7109.3	7109.34	15.88**
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	14874.9	3718.73	8.31**
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	53.3	53.35	<1
Residual Error	101	45210.9	447.63	
	Grade 1			
Total	113	637903		
μ	1	538545.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	28749.1	28749.12	55.84**
$\alpha\|\mu, \gamma, b$	1	170.2	170.23	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	3225.4	806.35	1.57
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	989.3	989.31	1.92
Residual Error	105	54059.2	514.85	
	Grade 2			
Total	142	556002		
μ	1	444864.1		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	46796.7	46796.72	130.81**
$\alpha\|\mu, \gamma, b$	1	599.9	599.86	1.68
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	5441.3	1360.33	3.80**
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	481.9	481.92	1.35
Residual Error	134	47938.3	357.75	

Appendix F (continued)

Source	df	SS	MS	F
	Grade 3			
Total	134	557426		
μ	1	494282.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	48760.8	48760.85	97.36**
$\alpha\|\mu, \gamma, b$	1	18.2	18.25	<1
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	4027.5	1006.87	20.1
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	38.8	38.85	<1
Residual Error	126	63104.5	500.83	
	Grade 4			
Total	137	622147		
μ	1	514913.9		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	49504.2	49504.19	225.37**
$\alpha\|\mu, \gamma, b$	1	1202.9	1202.93	5.48*
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	12828.6	3207.14	14.60**
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	1499.9	1499.91	6.83*
Residual Error	129	28336.2	219.66	
	Grade 5			
Total	132	670772		
μ	1	549411.0		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	7135.7	71357.50	246.55**
$\alpha\|\mu, \gamma, b$	1	1759.9	1756.92	6.07*
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	2890.5	722.62	2.50*
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	445.5	455.47	1.54
Residual Error	124	35886.5	289.42	
	Grade 6			
Total	152	752939		
μ	1	566690.5		
$b\|\mu, \alpha, \beta{:}\alpha, \gamma$	1	100142.5	100142.54	316.87**
$\alpha\|\mu, \gamma, b$	1	1063.3	1063.34	3.36
$\beta{:}\alpha\|\mu, \alpha, \gamma, b$	4	9720.3	2430.07	7.69**
$\gamma\|\mu, \alpha, \beta{:}\alpha, b$	1	436.2	436.18	1.38
Residual Error	144	45509.0	316.03	

Appendix F (continued)

Source	df	SS	MS	F
	Grade 7[a]			
Total	52	389436		
μ	1	311086.2		
$b\|\mu, \alpha, \gamma$	1	46616.6	46616.63	106.33**
$\alpha\|\mu, \gamma, b$	1	244.6	244.61	<1
$\gamma\|\mu, \alpha, b$	1	12.4	12.38	<1
Residual Error	48	21043.2	438.40	
	Grade 8[a]			
Total	51	363183		
μ	1	312941.7		
$b\|\mu, \alpha, \gamma$	1	14940.0	14940.85	24.30**
$\alpha\|\mu, \gamma, b$	1	77.4	77.38	<1
$\gamma\|\mu, \alpha, b$	1	4806.8	4806.76	7.82**
Residual Error	47	28900.7	614.91	
	Grade 9[a]			
Total	29	178017		
μ	1	130449.1		
$b\|\mu, \alpha, \gamma$	1	6645.4	6645.41	8.45**
$\alpha\|\mu, \gamma, b$	1	1065.7	1065.67	1.36
$\gamma\|\mu, \alpha, b$	1	3464.8	3464.85	4.41*
Residual Error	25	19653.5	786.14	

[a]Only two schools, one experimental school and one comparison school, were included in the design; therefore, the β factor (school within curriculum) was not included in the model.

* $p < .05$
** $p < .01$